Interactive Stories: Real Systems, Three Solutions

Noah Wardrip-Fruin[1]	Andrew Stern[2]	Peter Molyneux[3]	Michael Mateas[4]	Bernard Yee[5]
Brown University	Interactivestory.net	Lionhead Studios	Carnegie Mellon	En-Tranz
Moderator / Co-Organizer	Panelist / Co-Organizer	Panelist	University Panelist	Entertainment Panelist

1 Introduction

While pure theory can be interesting, this panel starts where the rubber meets the road for interactive stories – real systems, and the practice-oriented insights of creators. Expect to hear concrete examples and solutions to hard problems, ranging from the technical to the artistic. Of course, there's also a lot of controversy about what interactive stories are, and how to best make them, which this panel doesn't plan to ignore. It includes people working on major systems that represent three different approaches, and puts them together with a moderator that knows the hot buttons (as well as the points of agreement). The three approaches can be called: narrative game, interactive drama, and massively multiplayer storytelling.

Peter Molyneux, perhaps best known as the designer of the recent hit *Black and White*, is a master of the narrative game. This practice, growing out of computer game design, was pushed to new levels by the experience arc of *Black and White*. Now it promises to take yet another leap with Molyneux's upcoming project, which weds hero narrative with deep world simulation. This practice, embedded in a tradition of great gameplay, can sometimes find meaningful story its greatest challenge - but it's one Molyneux has been consistently able to meet.

Andrew Stern, when designing for the *Petz* series, created some of the most compelling virtual characters ever seen on a personal computer screen. This focus on character, and on engaging character interaction, is one of two major components of interactive drama - the other being a method for managing this interaction so that it results in a compelling story, to which collaborator Michael Mateas of *Terminal Time* fame brings to bear his experience as creator of next-generation AI-based artworks. While getting the character-plot combination right has proven quite elusive, pulling it off could open the door to the often-imagined world of interactive cinema.

Bernard Yee is a leading figure in the field of massively-multiplayer (MMP) gaming, where he has been involved with defining projects such as Sony's *Everquest*. In MMP worlds authors, rather than storytelling in a traditional sense, provide affordances and environments for players to tell stories collaboratively, through their actions. This *abdication of authorship* takes simulation-centered story well beyond the narrative game, but has so far only attracted a hard-core role-playing game audience. In the next two years, that may change.

This panel will be the first time leading representatives of these three approaches have appeared together at SIGGRAPH.

2 Peter Molyneux

Stories. Why sit back and enjoy them when you can actually MAKE them? Games are the only conduit by which you can be both a character in a story and the storyteller or narrator. In *Black & White* we designed the game so that the player could do whatever he or she wanted. The big story of warring gods and planetary domination was always there, but how and when it played out was down to whoever had their hand on the mouse. Of course, we had to steer the narrative, but the main choices were left open. Do you betray and attack your ally? Do you opt out of conflict or do you side with him and fight your common foe? We catered for each eventuality. The system worked, but what we learnt was that although people expect to have their choices pre-guessed in games they feel far more fulfilled when their choices appear to have an impact on every aspect, no matter how tiny, of their game lives, and the world in which they exist.

We learnt this playing *Black & White*, but it was too late to implement it fully in that game. But in *Project Ego* we're making sure that the player does feel that everything he or she does really makes a difference. The gap between the game world and the big, overall story is being been closed and as a by-product we're finding that it doesn't just take massive battles and toppling empires to make a player feel immersed in a game. The subtle touches work – people in your village mentioning that life is easier since the overbearing village elder joined his lord and was killed in the castle siege you started. And with *Ego* we can also show the changes on the detailed dynamic landscape.

So what we've learnt is that story isn't all about big, seamless plotting. It's about what we show the player as the game unfolds. Tiny details work as well as big events. Just as history is about daily life as well as presidents, kings and emperors, the stories we're working on are rich, deep and satisfying. Of course, they're also epic, but epic tales aren't the problem. It's the tapestry of life we weave around them that we've realized is so important. God may dwell in the details, but the future of god games definitely dwells in the details.

2.1 Molyneux Bio

Peter Molyneux is one of the best-known names and most articulate and eloquent speakers in the international world of computer games. He co-founded Bullfrog Productions in 1987 and created a new genre of computer games, "the god game" with the release of *Populous*. Since then Peter has been responsible for a string of massive selling games including *Powermonger*, *Theme Park*, *Magic Carpet* and *Dungeon Keeper*. Cumulative sales of his games are now approaching the ten million mark worldwide. In 1997 Peter left Bullfrog Productions to form a new games development company Lionhead Studios. The company's first game *Black & White* was released to wide spread critical acclaim in April 2001 and sales currently top the one and a half million mark. He has spoken at the American Museum of the Moving Image, the British Film Institute, BAFTA, GDC, GDCE, E3, ICA (London), the Tate Gallery and the Dortmund Museum of History and Culture.

3 Michael Mateas and Andrew Stern

Façade is an artificial intelligence-based art/research experiment in electronic narrative – an attempt to move beyond traditional

[1] nwf@brown.edu
[2] andrew@interactivestory.net
[3] pmolyneux@lionhead.com
[4] michaelm@cs.cmu.edu
[5] bernie.yee@mail.com

branching or hyper-linked narrative to create a fully-realized, one-act interactive drama. Integrating an interdisciplinary set of artistic practices and artificial intelligence technologies, we are completing a three year collaboration to engineer a novel architecture for supporting emotional, interactive character behavior and drama-managed plot. Within this architecture we are building a dramatically interesting, real-time 3D virtual world inhabited by computer-controlled characters, in which the player experiences a story from a first-person perspective. Façade will be publicly released as a free download in early 2003.

You, the player, using your own name and gender, play the character of a longtime friend of Grace and Trip, an attractive and materially successful couple in their early thirties. During an evening get-together that quickly turns ugly, you become entangled in the high-conflict dissolution of Grace and Trip's marriage. No one is safe as the accusations fly, sides are taken and irreversible decisions are forced to be made. By the end of this intense one-act play you will have changed the course of Grace and Trip's lives – motivating you to re-play the drama to find out how your interaction could make things turn out differently the next time.

This work is unlike any hypertext narrative or "interactive fiction" to date in that the computer characters actively perform the story without waiting for you to click on a link or enter a command. Interaction is seamless as you converse in natural language and move and gesture freely within the first-person 3D world of Grace and Trip's apartment. AI controls Grace and Trip's personality and behavior, including emotive facial expressions, spoken voice and full-body animation. Furthermore, the AI intelligently chooses the next story "beat" based on your moment-by-moment interaction, what story beats have happened so far, and the need to satisfy an overall dramatic arc. An innovative text parser allows the system to avoid the "I don't understand" response all too common in text-adventure interactive fiction.

3.1 Mateas Bio

Michael Mateas' work explores the intersection between art and artificial intelligence, forging a new art practice and research discipline called Expressive AI. He is currently at Carnegie Mellon, where he is an adjunct faculty member in the Entertainment Technology Center, a Research Fellow in the art department's Studio for Creative Inquiry and a Ph.D. student in Computer Science. Michael's AI-based artwork includes *Terminal Time*, a mass audience, interactive, story generation machine which constructs ideologically-biased documentary histories in response to audience feedback. Michael has presented papers and exhibited artwork internationally including SIGGRAPH, the New York Digital Salon, AAAI, the Carnegie Museum, the Warhol Museum, and Sonic Circuits (the Walker Museum entry). Michael received his BS in Engineering Physics from the University of the Pacific and his MS in Computer Science (emphasis in Human-Computer Interaction) from Portland State University.

3.2 Stern Bio

Andrew Stern is a designer and programmer of the interactive characters *Dogz*, *Catz* and *Babyz* from PF.Magic in San Francisco. Along with his fellow creators Adam Frank, Ben Resner and Rob Fulop, he has presented these projects at a variety of conferences including Digital Arts and Culture, SIGGRAPH 2000 Art Gallery, AAAI Narrative Intelligence Symposium, Autonomous Agents, Intelligent User Interfaces and GDC. *Babyz* won a Silver Invision 2000 award for Best Overall Design for CDRom. *Catz* received a Design Distinction in the first annual *I.D. Magazine* Interactive Media Review, and along with *Dogz* and *Babyz* was part of the American Museum of Moving Image's Computer Space exhibit in New York. The projects have been written about in *The New York Times*, *Time Magazine*, *Wired* and *AI Magazine*. He holds a B.S. in Computer Engineering from Carnegie Mellon University and a Masters degree in Computer Science from the University of Southern California.

4 Bernard Yee

My thoughts on interactive story come from several sources, not just my experience with massively multiplayer environments (MMPs). The important thing about MMPs, in this context, is that they provide an opportunity to watch emergent narrative and gameplay grow from the interactions of many users. This happens even in static systems, as long as the systems offer consequences for player action. Beyond this, I think the perspectives most central to my thoughts on interactive story are the simulation-based approach to narrative design and the related phrase coined by Doug Church and a few other developers, the *abdication of authorship*. Designers have been too enamored of their own cleverness – making players figure out their interpretation of the story (especially in an RPG context) rather than creating systems that enable the player to express themselves via their game actions. Scripted quests are not really interactive at all, since they play "guess the designer intent" games with the player. Simulations seem to be the way to, instead, create game systems that allow multiple means of solving problems. Simulations can create a loose narrative, a mini-narrative, and/or allow the player to superimpose his own narrative on top of game events. An example of this from RL is the last few seconds of a tight NBA game – do you throw it inside and post up your big man, or kick it out for the open jump shot? That mini-narrative arc is a familiar one, creating tension and multiple ways to resolution.

4.1 Yee Bio

Bernard Yee brings a deep knowledge of online gaming business and design, ranging from business models to development to maintenance. As an editor and analyst, he covered the emerging online gaming industry starting in 1994, authoring the first market report on online gaming for Jupiter Communications in 1996. Before joining En-Tranz, Bernard was Director of Programming at Sony Online Entertainment, publishers of *EverQuest* and the upcoming MMP games, *Planetside*, *Star Wars Galaxies*, and *Sovereign*. His prior work also includes being Director of Creative Development at Disney Online/ABC Online, and Director of Product Development at ABC Interactive. Bernard attended Columbia University and Duke University Law School, and is an expert in entertainment and corporate law.

5 Wardrip-Fruin Bio

Noah Wardrip-Fruin both writes interactive stories and writes about them. His current nonfiction work includes being the lead editor of *The New Media Reader* (with Nick Montfort) and of *First Person: New Media as Story, Performance, and Game* (with Pat Harrigan), both of which are forthcoming from MIT Press. His current fiction work includes being the lead writer/designer of *The Impermanence Agent*, which tells a story, monitors the user's web browsing, and uses browsed materials to customize its story out of existence. The *Agent* has been featured in the SIGGRAPH Art Gallery, was shortlisted for the first Electronic Literature Organization fiction prize, and was part of the Guggenheim Museum New York's 2001 "Brave New Word" program. Wardrip-Fruin spent seven years as a research scientist and artist and residence at New York University, was a founding faculty member of the University of Baltimore's School of Information Arts and Technologies (SIAT), and is currently a Creative Writing Fellow at Brown University.